VINOKUROV, A.A.; ZALETYAYEV, V.S.; KISHCHINSKIY, A.A.; MIKHEYEV, A.V.;
SABINEVSKIY, B.V.; FEDORENKO, A.P.; SHAPOSHNIKOV, L.K.

Wintering of water birds in the shore area of the Black Sea and the Sea of Azov in the winter of 1957/58. Migr. zhiv. no. 2:45-59 '60.
(MIRA 13:12)

1. Komissiya po okhrane prirody AN SSSR.
(Black sea region--Water birds)
(Azov region--Water birds)

KISHCHINSKIY, A.A.

Changes in the fauna of tundra birds of the Kola Peninsula and the arrival of some new species. Probl. Sev. no.4:165-171 '61.
(MIRA 15:1)

(Kola Peninsula--Birds)

ZELENCHUK, Yevgeniy Vasil'yevich; KISHCHINSKIY, Sergey Semenovich; KOROGODSKIY, Miron Vladimirovich; VASIL'YEV, N.S., redaktor; KOGAN, F.L., tekhnicheskiy redaktor

[Operations of truck columns far from regular bases; experience of leading automotive units of the Ministry of Automotive Transport and Highways of the Ukrainian S.S.R.] Rabota avtomobil'nykh kolonn v otryve ot postoiannykh baz; iz opyta peredovykh avtokhoziaistv Ministerstva avtomobil'nogo transporta i shosseinykh dorog USSR. Izd. 2-oe, perer. i dop. Moskva, Nauchno-tekhn. izd-vo avtotransp. lit-ry, 1956. 83 p. (MLRA 9:10)

(Transportation, Automotive)

KISHCHINSKIY, S.

[redacted]

Intercity automotive freight transportation. Avt.transp. 37 no.1:
4-6 Ja '59.
(MIRA 12:2)

1. Zamestitel' ministra avtomobil'nogo transporta in shosseynykh dorog USSR.

(Transportation, Automotive)

KISHECHNIKOV, S. A.

GANELIN, A.M.; KISHECHNIKOV, S.A.; KULIK, M.Ye.

Electric fence for animals on pasture. Biul. nauch.-tekh. inform. po elek. sel'khoz. no.1:10-11 '56. (MLRA 10:9)
(Electric fences)

SMIRNOVA, I.S., kand.tekhn.nauk; BAKHIREV, N.F., inzh.; KACHUROVA, K.P., zootekhnik; KUTSENKO, V.V., inzh.; BEKHTIN, B.I., inzh.; SVENTETSKIY, I.I., inzh.; KISHECHNIKOV, S.A., inzh.; YEVREINOV, M.G., red.

[Ultraviolet irradiation of farm animals and poultry; a manual] Ul'trafioletovoe obluchenie sel'skokhozyaystvennykh zhivotnykh i ptits; rukovodstvo. Moskva, Otdel tekhn.informatsiiVIESKha, 1959. 34 p. (MIRA 13:6)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrifikatsii sel'skogo khozyaystva. 2. Deystvitel'nyy chlen Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I. Lenina (VASKhNIL) (for Yevreinov).

(Ultraviolet rays--Therapeutic use) (Veterinary hygiene)

GANELIN, Aleksandr Moiseyevich; LEVIN, Moisey Solomonovich. Prinimali uchastiye: SERGIYEVSKIY, A.S.; KISHECHNIKOV, S.A.; LISTOV, P.N., doktor tekhn. nauk, prof., red.; MEL'NIKOVA, G.P., red.; TOKER, A.M., tekhn. red.

[Handbook for the beginning electrician working in rural electrification] Spravochnik molodogo mekhanika sel'skoi elektrifikatsii. Pod red. P.N.Listova. Moskva, Proftekhizdat, 1963. 464 p. (MIRA 16:8)

1. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Listov).
(Rural electrification--Handbooks, manuals, etc.)

SLAVIN, R.M.; VASIL'YEV, V.G.; GERAS'KOV, N.I.; KISHECHNIKOV, S.A.; DMITRIYEV, I.N., red.; TRUKHINA, O.N., tekhn.red.

[Overall mechanization in poultry raising] Kompleksnaia mekhanizatsiia v ptitsevodstve. [By] R.M.Slavin i dr. Moskva, Sel'khozizdat, 1963. 287 p. (MIRA 17:2)

5(1)

AUTHOR: Kishegyi, G., Engineer RUM/3-59-8-17/32

TITLE: The Development of the Chemical-Metallurgical Plant "Gh. Gheorghiu-Dej"

PERIODICAL: Revista de chimie, 1959, 10 Nr 8, pp 476-477 (Rumania)

ABSTRACT:

The author gives a description of the chemical-metallurgical plant called "Gh. Gheorghiu-Dej" which was founded after WW I. The variety of the products in those times is enumerated. The increase of the main production is tabulated, comparing the years 1949 and 1958. The percentage increase was for: sulfuric acid 140, hydrochloric acid 140, sodium sulfide 242,3, sodium bichromate 148, lead minium 230, lead sheet 761. Among the improvement measures are quoted: elimination of harmful sources, such as that of the arsen salts factory, due to the vicinity of the center of Baia Mare. In the lead concentrates section, investments were used for the filtration of gases and replacement of obsolete equipment (melting, agglomeration, and converting of copper). Other important in-

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RUM/3-59-8-17/32

The Development of the Chemical-Metallurgical Plant "Gh. Gheorghiu-Dej"

vestments made after 1948 were: the smoke channel and dispersion stack; the modern central laboratory including the research section, the pilot plants, sections for the preparation of reagents, the library, a new thermal power plant with modern water softening installations. Finally, it is mentioned that the workers' town is being extended by building new blocks of 72 apartments each.

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Card 2/2

SOV-27-58-8-12/27

AUTHORS: Dolgov, N., Director of Railroad School, and Kishek, G., Teacher

TITLE: Our Friendship Will Grow (Nasha druzhba budet krepnut')

PERIODICAL: Professional'no-tekhnicheskoye obrazovaniye, 1958, Nr 8, page 22 (USSR)

ABSTRACT: Students of the Poltava Railroad School helped the local kolkhoz, not only at harvest time, but also by supplying tools for the machine shop, spare parts for farm machinery and in helping in the electrification of the homes of kolkhoz workers.
There are 2 photos.

ASSOCIATION: Zheleznodorozhnoye uchilishche No 1 (Poltava) (Railroad School Nr 1 - Poltava)

1. Personnel--Training

Card 1/1

KISHELASHVILI, G.

Country : USSR
Category: Cultivated Plants. Grains.

M

Abs Jour: RZhBiol., No 11, 1958, No 48893

Author : Kishelashvili, G.
Inst : Georgian Agricultural Inst.
Title : Corn Sowing in Georgia.

Orig Pub: Tr. Gruz. s.-kh. in-ta, 1957, 46, 193-206

Abstract: No abstract.

Card : 1/1

PATRIN, P.A.; inzh.; KISHENEV, V.F.; TSIPENYUK, M.I., inzh.;
VOZNESENSKIY, A.A., kand.tekhn.nauk; SEDOV, V.G.,
IUR'YE, M.S.; STEPANENKO, M.G., prof.

Over-all mechanization and automatization of the heat treatment of ceramic stones (comment on M.I. Rogovyi's and D.O. Konovalov's article). Stroi. mat. 6 no.3:25-27 Mr '60. (MIRA 13:6)

1. Severo-Kavkazskaya nauchno-issledovatel'skaya stantsiya po stroitel'stvu i stroitel'nym materialam (for Patrin). 2. Zaveduyushchiy laboratoriyey tresta karagandastroymaterialy (for Kishenev). 3. Ukrgiprostroymaterialy (for TSipenok). 4. Zaveduyushchiy kafedroy energeticheskogo oborudovaniya i avtomatiki Rostovskogo inzhenerno-stroitel'nogo instituta (for Voznesenskiy). 5. Glavnyy inzhener instituta Rosstromoproyekt (for Sedov). 6. Glavnyy teplotekhnik instituta Rosstromproyekt (for Iur'ye).
(Kilns) (Automatic control)

KISHENIN, S.

Outstanding producer. Avt.transp.34 no.3:33 Mr '56. (MLRA 9:7)
(Kiselev, M.)

KISHEV, St.

KAPITANOV, G.; MATEEV, V.; KISHEV, St.

Late results of subdiaphragmatic vagotomy in the treatment of duodenal ulcer. Khirurgiia, Sofia 10 no.5:396-405 1957.

1. Vissh meditsinski institut -- Sofiia. Katedra po khirurgichna propedevtika. Zav. katedrata: prof. G. Kapitanov.
(PEPTIC ULCER, surg.
subdiaphragmatic vagotomy in duodenal ulcer (Bul))
(VAGOTOMY, in var dis.
subdiaphragmatic in duodenal ulcer (Bul))

KISHEV, St.; IANAKIEVA, M.

Experience with Marshall's retropubic cysto-urethro-pubic fixation in the treatment of stress incontinence in women. Khirurgiia (Sofiia) 16 no.4:363-370 '63.

1. Katedra po propedevtika na khirurgichnite bolesti - VMI [Vissh meditsinski institut] - Sofiia. Zav. katedrata: prof. G. Kapitanov.

(URINARY INCONTINENCE, STRESS) (SURGERY, OPERATIVE)

GANCHEV, G.; KISHEV, St.

On the surgical treatment of cryptorchism. Khirurgiia (Sofiia) 16 no.8:707-716 '63.

1. Vissh meditsinski institut - Sofiia, katedra po propedevtika na khirurgichnite zaboliavaniia. Rukovoditel na katedrata: prof. G. Kapitanov.

(CRYPTORCHISM) (SURGERY, OPERATIVE)

KISHEV, S.; TAKHCHIYEV, K.

Pre- and postoperative urethrography in urethral strictures.
Urologiia 28 no.5:60-62 S-O'63 (MIRA 17:4)

1. Is Propedevticheskoy khirurgicheskoy kliniki (zav. - prof. G.Kapitanov) Sofiyskogo meditsinskogo instituta.

KISHEV, St.

Results of Hryntschak's transvesical prostatectomy with primary bladder closure. Khirurgiia, Sofia 11 no.3:237-245 Mar 58.

1. Vissh meditsinski institut-sofiia Katedra po propedevtichna khirurgiia zav. katedrata: prof. G. Kapitanov.

(PROSTATECTOMY
transvesical, with primary closure, Hryntschek technic (Bul))

KISHEV, St.

Conservative or surgical treatment in prostate carcinoma. Khirurgiia, Sofia 14 no.9:779-784 '61.

1. Vissh meditsinski institut, Sofiia. Katedra po propedevtika na khirurgichnite zaboliavaniia. Zav. katedra: prof. G. Kapitanov.

(PROSTATE neoplasms)

GOFMAN, A.; FREY, A.I.; RUTSHMANN, I.; OTT, Kh.; SHEMYAKIN, M.M.; KISHFALUDI, L.; KOCHETKOV, N.K.; DEREVITSKAYA, V.A.; PROKOF'YEV, M.A.; SHABAROVA, Z.A.; FILIPPOVA, L.A.; SHANKMAN, S.; KHAYGA, S.; LIV, F.; ROBERTS, M.Ye.; GAVRILOV, N.I.; AKIMOVA, L.N.; KHLUDOVA, M.S.; MAKSIMOV, V.I.; IZELIN, B.M.; SHEPPARD, R.K.; SHKODINSKAYA, Ye.N.; VASINA, O.S.; BERLIN, A.Ya.; SOF'INA, Z.P.; LARIONOV, L.F.; KNUNYANTS, I.L.; GOLUBEVA, N.Ye.; KARPAVICHUS, K.I.; KIL'DISHEVA, O.V.; MEDZIGRADSKIY, K.; KAFTAR, M.; LEV, M.; KORENSKI, F.; BUASSONA, R.A.; GUTTMAN, St.; KHOYGENIN, R.L.; ZHAKENO, P.A.; BAZHUS, S.; LENARD, K.; DUAL'SKI, S.; SHREDER, Ye.; SHMIKHEN, R.; KHOKHLOV, A.S.

Results of the Fourth European Symposium on the chemistry of peptides. Abstracts of reports. Zhur. VKHO 7 no.4:468-476 '62. (MIRA 15:8)

1. Aktsionernoye obshchestvo "Sandos", Bazel', Shveytsariya (for Gofman, Frey, Ott, Rutshmann). 2. Farmatsevticheskaya fabrika "G.Rikhter", Budapesht, Vengriya (for Kishfaludi, Korenski, Dualski). 3. Institut khimii prirodnykh soyedineniy AN SSSR, Moskva (for Kochetkov, Derevitskaya, Shemyakin, Khokhlov). 4. Laboratoriya khimii belka Moskovskogo gosudarstvennogo universiteta (for Prokof'yev, Shabarova, Filippova, Gavrilov, Akimova, Khludova). 5. Fond meditsinskikh issledovaniy, Passadena, Kaliforniya, Sev.Soyed.Shtaty Ameriki (for Shankman, Khayga, Liv, Roberts). 6. Laboratoriya khimii belka Instituta organicheskoy

~~(Continued on next card~~)

IVANOV, V.A.; ALPATOV, Ye.M.; KOVBAS, M.I.; BOCHAROV, B.M.; KISHIK, A.I.

Efficient conveyer-type lacquering machine. Prom. energ. 18 no.7: 9 Jl '63. (MIRA 16:9)
(Electric machinery) (Protective coatings)

SEYKETOV, G.Sh.; KISHINESKIY, B.A.

Effect of the culture luquid of the fungus Trichoderma on the seed germination of some plants. Trudy Inst. mikrobiol. i virus. AM Kazakh. SSR 7:210-221 '63 (MIRA 16:12)

Effect of trichodermin on some reparesentatives of the rhizosphere microflora of potatoes. Ibid.:222-227

KOCHARYAN, N.M.; ALEKSANYAN, A.S.; LEVONYAN, E.TS.; KISHINEVSKAYA, L.P.

Investigating the sensitivity of a bubble chamber as related to low pressure. Dokl.AN Arm.SSR 30 no.2:87-91 '60. (MIRA 13:6)

1. Chlen-korrespondent AN Armyanskoy SSR (for Kocharyan).
(Ionization chambers)

KOTLYARSKIY, L.B.; ZELENAYA, A.V.; KISHINEVSKAYA, Z.M.; ZELENYY, A.G.

Application of ultrasonic waves in the manufacture of paint materials. Lakokras. mat. i ikh prim. no.5:51-57 '63.
(MIRA 16:11)

1. Proyektno-konstruktorskiy institut soveta narodnogo khozyaystva Moldavskoy SSR i lakokrasochnyy zavod "Krasnaya zvezda".

KISHINEVSKIY, A.N.

Some methods of analyzing hairs in relation to medicolegal testimony on their similarities. Sud.-med.ekspert. 2 no.1:14-19 Ja-Mr '59.
(MIRA 13:4)

1. Kafedra sudebnoy meditsiny (zaveduyushchiy - prof. V.M. Smol'yaninov) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.
(HAIR--ANALYSIS)

VASIL'YEV, M.A.; KISHINEVSKIY, A.N.

Use of the method of objective photometry in medicolegal analysis of hair. Sud.-med.ekspert. 3 no.1:24-26 Ja-Mr '60. (MIRA 13:5)

1. Kafedra sudebnoy meditsiny (zav. - prof. V.M. Smol'yaninov) II Moskovskogo gosudarstvennogo meditsinskogo instituta imeni N.I. Pirogova.
(PHOTOMETRY) (HAIR--ANALYSIS)

31065

S/166/61/000/006/006/010
B102/B138

26.2312

AUTHOR: Arifov, U. A., Academician AS Uzbekskaya SSR, Khadzhimukhamedov, Kh. Kh., Parilis, E. S., Kishinevskiy, L. M.

TITLE: Scattering of ions on metal surfaces

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 6, 1961, 50 - 56

TEXT: Experimental results of scattering of alkaline ions from hot and cold metal targets are discussed and compared with theoretical considerations. The aim of the investigations was to explain the sudden increase in the ion scattering coefficient on reduction of the ion energy E_0 from 1-15 kev to some hundred ev. The scattering coefficient K_s is defined as the ratio between scattered and primary ion current. The $K_s(E_0)$ curves were plotted in the E_0-range 75-1600 ev at $T = 300^{\circ}K$ for Na and K scattering from Mo, Na from W, Mo and Ni and Cs from Mo. In all cases K_s

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Scattering of ions on metal surfaces B102/B138

increased rapidly with diminishing E_0 and increasing mass of the target atoms. At E_0>800 ev K_s increased with ion mass. At high temperatures ($T=1500^{\circ}K$) Mo targets were bombarded with Na, K, Rb and Cs ions. K_s fell with increasing E_0 and ion mass. For Cs ions no fast scattering was observed. The lack of Cs ion scattering at high temperatures means that Cs ion scattering on a cold Mo target must be due to the film of adsorbed heavy atoms which evaporate at high temperatures. The coefficient of ion scattering from metal surfaces can be estimated from the relation $K_s=\sigma_0 N\lambda_e$, σ_0 being the elastic forward scattering cross section, N the number of target atoms per cm^3, λ_e the effective depth of back-scattering. $\sigma_0 = \pi p_0^2$. The collision parameter p_0 is found from

$$\int_{r_0}^{\infty} \frac{p_0 dr}{r^2 \sqrt{1-\frac{U(r)}{E_0}-\left(\frac{p_0}{r}\right)^2}} = \frac{\pi - \arccos\left(-\frac{m_2}{m_1}\right)}{2}. \qquad (5)$$

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Scattering of ions on metal surfaces

r_0 denotes the least distance between colliding nuclei. $p_0(E_0)$ was calculated for a Firsov potential $U(r) = \frac{Z_1 Z_2 e^2}{r} \chi\left[\psi(Z_1 Z_2) r/a\right]$ (O. B. Firsov, ZhETF, 1958, 34, 447). χ is the screening function. Eq. (5) was solved numerically and the results were compared with experimental ones. The deviations (at low energies the theoretical curves lie above, and at high, below, the experimental ones) are explained by the fact that the dependence of λ_e on E_0 was neglected. It is assumed that Cs^+ is not scattered from Mo atoms, but from heavier ones, e.g. Hg. There are 5 figures and 10 references. 9 Soviet and 1 non-Soviet.

ASSOCIATION: Akademiya nauk UzSSR (Academy of Sciences Uzbekskaya SSR)

SUBMITTED: July 26, 1961

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22050

9,3120(1003,1138,1140,1160)
26.2340

S/181/61/003/004/022/030
B102/B209

AUTHORS: Parilis, E. S. and Kishinevskiy, L. M.

TITLE: Theory of ion-induced electron emission

PERIODICAL: Fizika tverdogo tela, v. 3, no. 4, 1961, 1219-1228

TEXT: The field-induced electron emission has already found satisfactory theoretical explanation and description, whereas for electron emission due to ion bombardment (often called "kinetic emission") a proper theory is not yet available. The existing theories are either too specialized or disagree with experimental results. The theory of Ya. I. Frenkel', for instance, is not in agreement with the adiabatic character of the deformation of the ionic electron sheath at energies <100 kev, and the one established by S. V. Izmaylov does not agree with the fact that the emission is independent of the ion charge. This paper presents a theory which permits a description of the kinetic-energy transfer from an ion to a metal atom within the range of 1-100 kev. The electron yield from the metal is regarded as the consequence of an Auger recombination of a conduction electron with a hole. The ion-induced electron emission is studied in two stages: Energy transfer

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from ion to electron, and departure of the excited electron from the metal surface. A proper mechanism has to be found now for both stages. In the first section, the authors describe the energy-transfer mechanism which is based on the Thomas-Fermi statistical theory of an atomic electron cloud. When the atomic motion is considered in a classical manner, the transferred energy

$$\mathcal{E} = \frac{m^2e^2}{4\pi^2h^3}\int\left(\int_S \varphi^2 dS\right)\dot{\vec{R}}d\vec{R}$$

will assume the form

$$\mathcal{E}(p) = \frac{\hbar u_0}{\pi a_0^2}(Z_1+Z_2)^2\int_{R_0}^{\infty}\frac{\left[1-\frac{V(R)}{E}\right]dR}{\sqrt{1-\frac{V(R)}{E}-\frac{p^2}{R^2}}}\int_{\frac{R}{2}}^{\infty}\frac{\chi^2(\rho)\,d\rho}{\rho}, \qquad (4)$$

(4), or,

in the limiting case of narrow angles,

$$\mathcal{E} = \frac{0.35\,(Z_1+Z_2)^{5/3}\frac{\hbar u_0}{a_0}}{\left[1+0.16\,(Z_1+Z_2)^{1/3}\frac{R_0}{a_0}\right]^5}, \qquad (3)$$

(3).

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R denotes the radius vector which connects the colliding atoms, S the surface separating the ranges of action of the two nuclear potentials (in simple cases, a plane with the potential φ), $a_o = \hbar^2/m^2$, u_o is the relative velocity of the atoms, R_o the least distance between the two nuclei, E the energy of the relative motion of the atoms, p the collision parameter, and V(R) the repulsive potential. The second section is devoted to the excitation of the metal electrons. The energy-transfer mechanism discussed above is valid only for bounded electrons, but not for free metal electrons. Consequently, electrons are excited into the conduction band only from a filled band. This excitation may be regarded as some sort of "ionization." The authors studied the cross section for such a (plain) ionization $\sigma = 2\pi \int_0^{p_1} \frac{\varepsilon(p)}{J}\,pdp$, and obtained the following expression for small collision parameters at $1/4 < \frac{Z_1}{Z_2} < 4$: $\sigma(u_o) = \frac{1.39\, a_o \hbar}{J}\left(\frac{Z_1 + Z_2}{\sqrt{Z_1} + \sqrt{Z_2}}\right)^2 S(u_o)$, where

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$$S(u_0)=\frac{1.28}{a_0^2}u_0(\sqrt{Z_1}+\sqrt{Z_2})^2\int\limits_0^{p_1}pdp\int\limits_{R_0}^{\infty}\frac{1-\frac{V(R)}{E}}{\sqrt{1-\frac{V(R)}{E}-\frac{p^2}{R^2}}}dR\times$$

$$\times\int\limits_{\frac{R}{2}}^{\infty}\frac{\chi^2\left[1.13\,(Z_1+Z_2)^{2/3}\frac{\rho}{a_0}\right]}{\rho}d\rho$$

this integral can be numerically determined. $S(u_o) = 5.25\ u_o \operatorname{arc\,tan} 0.6\cdot10^{-7}(u_o - u_{min})$ is a good approximation; u_{min} is the threshold velocity equaling $(0.6 - 0.7)\cdot10^7$ cm/sec. J stands for the mean ionization potential of the outer shells. In the following section, the authors examine the electron yield from the metal. They investigate the coefficient of ion-induced electron emission, $\gamma = \int\limits_0^{x_m}\sigma(u)w(\delta)Ne^{-x/\lambda}dx$, which indicates the number of electrons emitted

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per ion striking the metal surface. $w(\delta)$ is the electron-emission probability in accordance with the Auger process, $w(\delta) = 0.016(\delta - 2\varphi)$, where δ denotes the depth of the filled band. With $u_0^2 - u^2 = kx$ and $k = \frac{2.48\pi N a_0 e^2 Z_1 Z_2}{(\sqrt{Z_1} + \sqrt{Z_2})^{2/3}(M_1 + M_2)}$, one obtains the expressions

$$\gamma = \frac{2Nw(\delta)}{k} \int_{u_{min}}^{u_0} u\sigma(u) e^{\frac{u^2-u_0^2}{k\lambda}} du = Nw(\delta)\lambda[\sigma(u_0) - \Delta\sigma(u_0)], \qquad (13)$$

(13),

$$\Delta\sigma(u_0) = \exp\left(-\frac{u_0^2}{k\lambda}\right) \int_{u_{min}}^{u_0} \exp\left(\frac{u^2}{k\lambda}\right) \frac{d\sigma(u)}{du} du \qquad (14)$$

(14), and

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$$\Delta\sigma(u_0)=\exp\left(-\frac{u_0^2}{k\lambda}\right)\left\{\frac{\pi}{2}\sqrt{k\lambda}\left[\Phi\left(\frac{u_0}{\sqrt{k\lambda}}\right)-\Phi\left(\frac{u_{\min}}{\sqrt{k\lambda}}\right)\right]-\right.$$

$$\left.-\frac{1}{2}u_{\min}\left(\frac{\pi}{2}-0.6\cdot10^{-7}u_{\min}\right)\left[\mathrm{Ei}\left(\frac{u_0^2}{k\lambda}\right)-\mathrm{Ei}\left(\frac{u_{\min}^2}{k\lambda}\right)\right]\right\}, \qquad (16)$$

16).

$$\Phi(x)=\int_0^x e^{t^2}dt;\quad E_i(x)=\int_{-\infty}^{x} e^t\frac{dt}{t}.$$

Introducing the effective ionization cross section $\sigma^*(u_0) = \sigma(u_0) - \Delta\sigma(u_0)$, one may express γ in the simple form $\gamma = N\sigma^*(u_0)\lambda w(\delta)$; u_0 denotes the initial velocity of the ion. The results of this theory are then compared with experimental results concerning the dependence of electron emission on ion velocity, the charge independence of the yield, the dependence of γ on the kind of ion, the isotopic effect, and the dependence of γ on the angle of incidence of the ion. Agreement is found to be satisfactory. The authors thank Professor U. A. Arifov for

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Theory of ...

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having suggested the problem and for his interest; Sh. Sh. Shakhter, P. L. Kapitsa, N. D. Morgulis, A. Ye. Gurtovoy, and O. B. Firsov are mentioned. There are 2 figures, 1 table, and 27 references: 14 Soviet-bloc and 13 non-Soviet-bloc.

ASSOCIATION: Institut yadernoy fiziki AN UzSSR (Institute of Nuclear Physics, AS Uzbekskaya SSR)

SUBMITTED: September 7, 1960

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42420

S/048/62/026/011/012/021
B125/B102

24.6760

AUTHORS: Kishinevskiy, L. M., and Parilis, E. S.

TITLE: Theory of the ion-induced electron emission from a metal

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 11, 1962, 1409-1410

TEXT: It is proved that the theory of the ion-induced electron emission, developed for heavy ions by E. S. Parilis, L. M. Kishinevskiy (Fizika tverdogo tela, 3, 1219 (1961))* applies also to light ions is proved. The quantity $F = \gamma(Z_1,Z_2)/\gamma(Z_1,Z_1)$ is calculated for comparison with the experiment. All values of γ are here related to the case $Z_1 = Z_2$. For heavy ions, this ratio F is $F_1 = f_1(Z_1,Z_2) = ((Z_1 + Z_2)/(\sqrt{Z_1} + \sqrt{Z_2}))^2$, and for light ions $F_2 = (1/16)(1 + \sqrt{Z_2/Z_1})(1 + \sqrt[6]{Z_2/Z_1})^3$ where Z_1 is the atomic number of the metal and Z_2 that of the ion. It is the similar form of the functions F_1 and F_2 that proves the applicability of the above

f

Card 1/2 * S/181/61/003/004/022/030

S/048/62/026/011/012/021
B125/B102

Theory of the ion-induced ...

mentioned theory to light ions. There is 1 figure.

ASSOCIATION: Institut yadernoy fiziki Akademii nauk UzSSR (Institute of Nuclear Physics of the Academy of Sciences UzSSR)

Card 2/2

S/048/62/026/011/013/021
B125/B102

24712 26.2340 17

AUTHOR: Kishinevskiy, L. M.

TITLE: The cross section of inelastic atomic collisions

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 11, 1962, 1410-1414

TEXT: For atomic collisions with arbitrary Z the cross section of electron detachment is calculated taking account of multiple ionization. The energy transfered (mean excitation energy) can be estimated by the formula $\mathcal{E}_{tr} = (m^2e^2/4\pi^2\hbar^3)(\int_S \varphi^2 dS)\vec{R}\cdot d\vec{R}$. φ is the quasi-molecule potential, the surface S separates the effective ranges of the potentials of the colliding atoms. φ has its minimum value at the intersection of S with the radius vector $\vec{R}$ which connects the colliding atoms. In the formula $\varphi = 0.5ea_0(3\pi^2\varrho)^{2/3}$ of the Thomas-Fermi statistical model $\varrho = \varrho_1 + \varrho_2$ is the electron density in the quasi-molecule, and a_0 is

Card 1/4

Bohr's radius. ϱ_1 and ϱ_2 are the electron densities in the unperturbed atoms 1 and 2. The motion of the atoms is investigated in classical approximation. Under these assumptions and with the potential $V(R) = (Z_1 Z_2 e^2/R)\chi(\psi R/a)$ for the interaction of atoms 1 and 2, where $\psi = (\sqrt{Z_1} + \sqrt{Z_2})^{2/3}$, formula

$$\mathscr{E}_n = \frac{2^{1/2}\hbar u}{\pi a_0^2} \int_{R_{\text{мин}}}^{\infty} \frac{1 - V(R)/E}{\sqrt{1 - V(R)/E - (p/R)^2}} \left\{ Z_1^2 \int_{r_1}^{\infty} \frac{\chi^2(x)}{x} dx + Z_2^2 \int_{r_2}^{\infty} \frac{\chi^2(x)}{x} dx \right\} dR. \qquad (10)$$

follows. R_{min} is the shortest distance between the atoms 1 and 2. For $x \geqslant 0.3$, the approximation $\int_x^{\infty} (\chi^2(x)/x)dx \approx 1.1/(1 + 0.8x)^4$ may be used.

The expression

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S/048/62/026/011/013/021
B125/B102

The cross section of inelastic ...

$$\mathcal{E}_n = \frac{0{,}3\cdot 10^{-7}\, u Z_1 (\sqrt{Z_1} + \sqrt{Z_2})(Z_1^{1/6} + Z_2^{1/6})}{[1 + 0{,}67\, \sqrt{Z_1} R_{\text{мин}}/a\, (Z_1^{1/6} + Z_2^{1/6})]^3} \left[1 - 0{,}68\, \frac{V(R_{\text{мин}})}{E}\right]. \quad (13),$$

calculated with the approximation $\chi(x) = [1 + (\pi/8)^{2/3}x]^{-2}$ (T. Tietz, Nuovo cimento, I, 955 (1955)) deviates from (10) by a maximum of 10% in all cases of interest. $\mathcal{E}_n = \mathcal{E}_{tr}$, $R_{\text{мин}} \equiv R_{min}$; $Z_1 > Z_2$. $\mathcal{E}_{tr}$ is expressed in ev and u in cm sec^{-1}. Under these assumptions, the ionization cross section of the quasi-molecule is

$\sigma_- = \sum_n \sigma_n$ with

$$\sigma_n = \sigma_0 \left[\left(\frac{2}{n(n+1)} \cdot \frac{u}{u_0}\right)^{1/2} - 1\right]^2, \quad (20),$$

$$\sigma_0 = \frac{2{,}2\pi a^2}{Z_1} (Z_1^{1/6} + Z_2^{1/6}), \quad (21),$$

$$u_0 = 3{,}5\cdot 10^7 I\, [Z_1 (\sqrt{Z_1} + \sqrt{Z_2})(Z_1^{1/6} + Z_2^{1/6})]^{-1}. \quad (22).$$

Card 3/~~5~~4

The cross section of inelastic ...

S/048/62/026/011/013/021
B125/B102

$\sigma_- = \sigma_0((u/4u_0)-1)$ roughly holds for $u > 10\ u_0$. The experimental curves obtained by the various authors surround the theoretical curve $\sigma_-(u)$ as a compact group, but the experimental curves differ so much among themselves that it is difficult to decide which of the theoretical curves (σ_1 or σ_-) are in better agreement with the experiment. If the detachment of several electrons in a single collision is taken into account, the cross section increases more rapidly and $1.5/\sigma_1/ \leqslant /\sigma_-/ \leqslant 2/\sigma_1/$. The function $\sigma_-(u)$ is linear according to E. S. Parilis, L. M. Kishinevskiy (Fizika tverdogo tela, 3, 1219 (1961)), if $u \gg u_0$. There are 1 figure and 1 table. Acknowledgments to U. A. Arifov.

Card 4/~~5~~ 4

ARIFOV, U.A., akademik; KHADZHIMUKHAMEDOV, Kh.Kh.,; PARILIS, E.S.;
KISHINEVSKIY, L.M.

Ion scattering on a metal surface; experimental part. Izv. AN Uz. SSR. Ser. fiz.-mat. nauk no.6:50-56 '61. (MIRA 16:12)

1. Akademiya nauk UzSSR.

KISHINEVSKIY, L.YE.

GORBUSHINA, Z.Ye., kandidat meditsinskikh nauk; **KISHINEVSKIY, L.Ye.**

Cases of congenital diaphragmatic hernia. Vest.rent. i rad. 32
no.1:81-82 Ja-F '57. (MIRA 10:6)

1. Iz kliniki obshchey khirurgii (zav. - prof. M.S.Arutyunyan)
Kishinevskogo meditsinskogo instituta (dir. - prof. N.T.Starostenko)
i rentgenovskogo otdeleniya (zav. M.B.Balaban) Respublikanskoy
klinicheskoy bol'nitsy (glavnyy vrach M.G.Zagarskikh).
(HERNIA, DIAPHRAGMATIC, congen.
diag. of rare case)

MIL'MAN, N.Ya., kand. med. nauk; KISHINEVSKIY, L.Ye.

Experience in training physicians in roentgenology for rural district hospitals. Vestn. rent. i rad. 38 no.3:81-83 My-Je '63. (MIRA 17:7)

1. Glavnyy rentgenolog Ministerstva zdravookhraneniya Moldavskoy SSR (for Mil'man). 2. Zaveduyushchiy rentgeno-radiologicheskim tsentrom Respublikanskoy klinicheskiy bol'nitsy (for Kishinevskiy).

Kishinevskiy, M. Kh. Caud Chem Sci

Dissertation: "On the Kinetics of Absorption."

17 June 49

Moscow Order of Lenin Chemicotechnological Inst imeni D. I. Mendeleyev.

SO Vecheryaya Moskva
Sum 71

KISHINEVSKIY, M. KH.

Nuclear Science Abst.
Vol. 8 No. 3
Feb. 15, 1954
Physics

839
The Kinetics of Absorption. M. Kh. Kishinevskii and A. V. Pamfilov. Translated from Zhur. Priklad. Khim. 22, 1173-82(1949), 9 p. (AERE-Trans-11/3/5/343)

A theory of absorption processes is developed on the principle that the substance is transported by convective diffusion in accordance with which the flow of substances is defined by an equation based on the mean linear velocity of movement of the molecules. A general equation of absorption kinetics is presented, and formulas are deduced for systems with high turbulence in the reacting phases. The first formula refers to irreversible reactions of the second order, whereas the second is not limited by the order of the reaction. The differing influence of the partial pressure of the gas and of the concentration of the absorbent upon the rate of one and the same absorption process, as dependent upon the hydrodynamical conditions under which the given process is carried on, is shown. (C.H)

4-20-54

[illegible]

Chemistry - 2

CP

Absorption of carbon dioxide by solutions of sodium hydroxide and sodium carbonate under conditions of intensive mixing. M. Kh. Kishinevskii and A. V. Pamfilov (Inst. Industry, Gorkii). *Zhur. Anal. Khim.* 22, 1181-88(1949); *Chem. Zentr.* 1950, II, 1323-3; cf. C.A. 40, 3836e.—The method described for the quant. investigation of the kinetics of absorption during intensive mixing (with the magnitude of the phase interface being unknown) is based on the maintenance of a const. phase interface by the choice of temps. and concns. that correspond to the const. phys. properties of the absorbent. If a high degree of turbulence is assumed, the following relations hold for the absorption of CO_2 by NaOH and Na_2CO_3 solns.: $q = dw/s.dt = \beta p[KC + r_s]/[KC + r_s + (\beta/H)]$, in which q = rate of absorption per unit of time per unit of interface surface; β = the hydrodynamic const. of the gas phase or the const. of the rate of diffusion in the gas phase; p = the partial pressure of CO_2; K = $K_a r_s \Delta t$; K_a = const. of the velocity of the chem. reaction; r_s = the hydrodynamic const.; Δt = the period of renewal of the surface layer; C = the concn. of the chemically active component of the soln.; H = the soly. coeff. Exptl. results showed that at high turbulence the rate of absorption was proportional to the partial pressure and that the concn. of the absorbent had a slight effect on the rate of absorption. Under such conditions an increase in C resulted in a reduction in q in those cases in which an absorption process and a slower chem. reaction were involved. It follows that the CO_2 dissolved in the vol. of the liquid phase does not react.

M. G. Moore

KISHINEVSKIY, M. Kh. 183T41

USSR/Chemistry - Adsorption May 51

"Brief Communication: Kinetics of Adsorption Under Conditions of Intensive Agitation," M. Kh. Kishinevskiy, Kishinev State U

"Zhur Prik Khim" Vol XXIV, No 5, pp 542-545

Proceeding from concept of transfer of substance by mass current, obtains eq for kinetics of adsorption which is applicable to wide range of turbulence for processes accompanied by 1st order reactions.

183T41

KISHINEVSKIY, M. Kh.

3

✓ **Resistance of the gaseous phase in the absorption processes of carbon dioxide by alkaline solutions.** M. Kh. Kishinevskii and L. A. Mochalova. *Uchenye Zapiski Kishinev. Univ.* 7, 27-35(1953); *Referat. Zhur., Khim.* 1954, No. 40093.—In order to test the equations for mass transfer in the gaseous phase previously derived (cf. *C.A.* 49, 12945c) the rate of absorption of CO_2 by alk. solns. of KOH and NaOH was studied. The expts. were made in the region of high turbulence of the liquid phase (speed of stirring 1700 and 2600 r.p.m.) in order to intensify the transfer of matter in the liquid phase to a point where the resistance of the gaseous phase would attain significant value. In the equation for the resistance mechanism of the gaseous phase $\gamma_0 = \beta_0^* P_t (1 - \chi K_s c)$ the value γ_0/P_t is in linear relation to $K_s c$. The values of γ_0/P_t and $K_s c$ calcd. from exptl. data for the absorption of CO_2 by KOH and NaOH are in good agreement with the equation.

M. Hosch

(1)

KISHINEVSKIY, M. Kh.

8

③

Absorption of sulfur dioxide by solutions of potassium
hydroxide. M. Kh. Kishinevskii and S. M. Faler (State
Univ., Kishinev). *Zhur. Priklad. Khim.* 26, 579-83(1953); - Lab. Phys. Chem.
cf. *C.A.* 46, 10801*h*.—The rate of absorption of SO_2 by solns.
of KOH under vigorous stirring of the liquid phase was
detd., and the data were found to conform to the theoretical
equation deduced from the kinetics of the process: $dw/dt =$
$(c + s)/\rho$, where c is the concn. of the active component of
the absorber, and s is the soly. of SO_2 in the neutralized, up
to the bisulfate, surface layer, resp. ρ, a hydrodynamic
const., calcd. by means of this equation was found to be
const. for a given temp. and rate of stirring. I. Bencowitz

KISHINEVSKIY, M. Kh.

In Phys Chem,

Effect of stirring on the kinetics of absorption of carbonic acid in solutions of sodium carbonate. M. Kh. Kishinevskii and R. M. [illegible] [illegible] Zhur. Priklad. Khim. 26, [illegible] and method used are [illegible] and Kerdivarenko (C.A. 40, [illegible]). The viscosity value of the liquid phase was maintained at 1.18 centipoises. Concn. of the carbonic acid in the gas introduced into the absorber equaled 98%. Kinetics of the absorption reaction was studied at the following 6 stirring rates: 340, 800, 1180, 1450, 1700, and 2000 r.p.m. Data obtained were treated by the following equation: $d\omega/d\tau = \{mC[1 - e^{-PHK}] + PH\}/\rho$, where $d\omega/d\tau$ is rate of absorption, m is the stoichiometric coeff. of the reaction, C is the concn. of chemosorbent, P is the partial pressure of the absorbed gas, H is the soly. of the gas, and ρ is a const. At relatively low turbulence, an increase in concn. increases the rate of absorption, but at high turbulences decreases it. The soly. of CO_2 in $0.1M$ Na_2CO_3 soln. is assumed to equal its soly. in bicarbonate. From the exptl. data 3 calcns. were made: (1) calcn. of the activation energy, (2) calcn. of the coeff. of soly., and (3) calcn. of the theoretical curves at 1700 and 2000 r.p.m. Gladys S. Macy

Distr: 4E2j

✓ Mechanism of absorption 7 processes. M. Kh. Kishinevskii and L. A. Mochalova. [illegible] Zhur. [illegible]

[illegible]

coeff. of the gas, and P its partial pressure. N. Vasileff

KISHINEVSKIY, M. Kh.

Subject	: USSR/Chemistry	AID - P-90
Card	: 1/1	
Authors	: Kishinevskiy, M. Kh., Kishinev	
Title	: Danckwerts' theoretical work on absorption	
Periodical	: Zhur. Prikl. Khim. 27, no. 4, 382-390, 1954	

Abstract : The paper by P. V. Danckwerts "Significance of Liquid-Film Coefficients in Gas Absorption" (Ind. Eng. Chem. 43, 1460-1467, 1951) is discussed. The author maintains that M. Kh. Kishinevskiy and A. V. Pamfilov have a prior claim to the formulation of the assumption of a renewed surface. (see: "Absorption of carbon dioxide by solutions of sodium hydroxide and sodium carbonate under conditions of intensive mixing", Zhur. Prikl. Khim. 22, 1183-1190, 1949). (Analyst's note: An abstract of the latter paper did not appear in C. A. until 1952; Danckwerts' paper was published in 1951).

Institution : Kishinev State University

Submitted : February 2, [illegible]

Subject : USSR/Chemistry AID - P-98

Card : 1/1

Author : Kishinevskiy, M. Kh.

Title : Theory of absorption processes accompanied by reactions of the second order

Periodical : Zhur. Prikl. Khim. 27, no. 4, 450-454, 1954

Abstract : Derivation of equations for absorption is given based on the assumed turbulent mass transfer during the renewal of the surface layer. Four references (U.S.S.R.): 1949-1953.

Institution : Kishinev State University

Submitted : August 10, 1953

KISHINEVSKIY, M. KH.

KISHINEVSKIY, M. KH. -- "The Kinetics of Absorption Processes Accompanied by Chemical Reactions." Min Higher Education USSR. Moscow Order of Lenin Chemicotechnological Inst imeni D. I. Mendeleyev. Moscow, 1955. (Dissertation for the Degree of Doctor of Technical Sciences.)

SO: Knizhnaya letopis', No. 4, Moscow, 1956

KISHINEVSKIY, M.Kh.

USSR.

Kinetics of bubble absorption. L. A. Mochalova and M. Kh. Kishinevskiĭ (State Univ., Kishinev). *Zhur. Priklad. Khim.* 28, 30-9(1955); *J. Appl. Chem.* (U.S.S.R.) 28, 25–33(1955)(Engl. translation); cf. *C.A.* 48, 6211e.—The rate of absorption of CO_2 in 0.43–2.70*N* NaOH (1), 0.85–1.70*N* monoethanolamine (2), and 0.414–1.57*N* Na_2CO_3 (3), and SO_2 in 0.35–0.68*N* Na_2CO_3 (4) was detd. The temp. and the concn. were adjusted to maintain a const. viscosity. To eliminate the error caused by different size bubbles formed at different gas rates the opening of the bubbling tube, 2.5 mm. diam., was submerged only 4 mm. below the surface of the soln. The results in systems (1) and (2) are expressed by a somewhat modified basic equation: $d\omega/d\tau = [(C_0/m)[1-e^{-mHP_i/K} + HP_i]]/[\rho + (H/\beta)]$ where P_i is the partial pressure of the gas in the phase interface and β and ρ are the gas and liquid film resistances, resp. A simplified expression $d\omega/d\tau = HP(KC + 1)/\rho$ applies to system (3) and $d\omega/d\tau = (C_0 + C_i)/[\rho + (H/\beta)]$ to system (4). The evaluation of the several variables and the procedure of simplification of the last 3 equations are analytically discussed in detail. Absorption of SO_2 is distinguished from that of CO_2 as not a phys. process but one controlled by the reaction $H_2O + SO_2 \rightleftarrows H_2SO_3 \rightleftarrows H^+ + HSO_3^-$; the total SO_2 dissolved in H_2O, C_i, is the sum of the un-ionized and ionized SO_2. β is obtained from $d\omega/d\tau = \beta P$ which holds at high concns. where $P_i = 0$ and the rate is independent of C.

I. Bencowitz

KISHINEVSKIY, M. Kh.

AID P - 3417

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 2/18

Authors : Kerdivarenko, M. A., P. K. Migal' and M. Kh. Kishinevskiy

Title : Kinetics of absorption of ethylene by sulfuric acid

Periodical : Zhur. prikl. khim., 28, 5, 459-466, 1955

Abstract : The rate of absorption of ethylene was studied at 9, 20 and 40°C with sulfuric acid of 0 to 95%. With sulfuric acid of 80% and higher concentrations, the reaction rate increases more rapidly than it should according to the kinetic equation. This is ascribed to an increased hydration of H_2SO_4. Four tables, 7 diagrams, 7 references, 3 Russian (1944-54).

Institution : Laboratory of Physical Chemistry of the Kishinev State University

Submitted : F 3, 1954

[illegible]

AID P - 3740

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 4/22

Author : Kishinevskiy, M. Kh.

Title : Two methods of theoretical analysis of the absorption processes

Periodical : Zhur. prikl. khim., 28, 9, 927-933, 1955

Abstract : The method based on the assumption that the process is stationary is considered not accurate since under conditions prevalent in industry the contact time of the phases is very short. A method based on the assumption that the process is quasi-stationary is being developed. Seventeen references, 13 Russian (1947-1955).

Institution : Kishinev State University

Submitted : Ja 21, 1955

Name: **KISHINEVSKIY, Mark Khaimovich**

Dissertation: Kinetics of absorbtion processes accompanied by chemical reactions

Degree: Doc Tech Sci

Affiliation: Kishinev State U

Defense Date, Place: 29 Mar 56, Council of Moscow Order of Lenin Chemical Engineering Inst imeni Mendeleyev

Certification Date: 6 Jul 57

Source: BMVO 18/57

KISHINEVSKIY, M.Kh.

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Chem

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[illegible] of the [illegible] of mass transfer in gas-liquid systems during mechanical stirring. M. Kh. Kishinevskii and V. A. Pamfilov (State Univ., K[illegible]). Zhur. Priklad. Khim. [illegible] (1956); cf. C.A. 50, [illegible]. The [illegible] of absorption of [illegible] N, O, and H in distd. H₂O was [illegible] The coeff. of absorption K was found by the relation [illegible] K(C* − C), where C and C* are the content of the gas in the [illegible] the liquid and in the [illegible]. [illegible] of the mol. diffusion D of the 3 gases the value of K for all 3, with the stirrer revolving at 1700 r.p.m., was [illegible] the same: 1.18-1.16, 1.20-1.24, and 1.18-1.21. With the stirrer revolving at 1200 r.p.m., K decreased 4.5 times and D became the controlling factor. L. Ber[illegible]

PM

KISHINEVSKIY, M.Kh.

7001

Mechanism of bubble absorption. M. Kh. Kishinevskiĭ and L. A. Mochalova [illegible]. *Zhur. Priklad. Khim.* 24, [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The data with Na_2CO_3 [illegible] concn. was obtained from $d\omega/d\tau$ = [illegible] the mass-transfer coeff. β from $\beta = (d\omega/d\tau)/P$ obtained at high concns. and temps. at which [illegible] The values [illegible] calcd. from the exptl. data [illegible] absorption processes accompanied by 2nd-order reactions ($K_r\Delta\tau$ = 60 and K_r = 24 [illegible]) agree with those obtained from the data of bubbles of radius [illegible] rising at the rate [illegible] ω', $\Delta\tau = r/\omega'$. This agreement confirms the basic equation. The calcd. value of the coeff. of diffusion is several times as large as the mol. coeff. of diffusion. (K_r is the rate const. of the reaction.)

I. Bencowitz

KISHINEVSKIY, M.Kh.

Effect of stirring on [illegible] kinetics [illegible]
sorption by solutions [illegible]
Kishinevskii [illegible] 30
[illegible] 30 [illegible] 54 195[illegible]

[illegible] NEFSALT, A

450 r.p.m. and $P = 1$ atm. the curves q vs. C were [illegible] functions with slopes of $1/\text{min}$ [illegible]. The [illegible] of these slopes for the entire [illegible] 5.44M, indicated the absence [illegible] for the over-all resistance the value of [illegible] olation of the function q vs. c for P [illegible] limiting absorption rate [illegible] for $v = 200$ and 450 r.p.m. For higher values of v, affecting the free surface [illegible] were 0.028 and [illegible] and 1400 r.p.m. [illegible] The energy of activation [illegible] with the [illegible] value of Fourbert. J. [illegible] 400(1953).

I. Bencowitz

KISHINEVSKIY, M. Kh.

Determination of the [illegible]
[illegible] accompani[illegible]
[illegible]
values of [illegible]

MOCHALOVA, L.A.; KISHINEVSKIY, M.Kh.

Transfer of matter during the absorption by the bubbling method. Zhur. prikl. khim. 31 no.7:1013-1018 Jl '58. (MIRA 11:9)

1. Laboratoriya fizicheskoy khimii Kishinevskogo gosudarstvennogo universiteta.
(Absorption) (Mass transfer)

5(1) SOV/80-32-4-13/47

AUTHORS: Mochalova, L.A., Kishinevskiy, M.Kh.

TITLE: On the Calculation of the Height of Towers for the Chemical Interaction of a Gas With a Liquid (O raschëte vysoty apparatov dlya khimicheskogo vzaimodeystviya gaza s zhidkost'yu)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 4, pp 785-789 (USSR)

ABSTRACT: Methods for designing absorption apparatus, employed in chemical technology for gas-liquid interactions, have not thus far been developed. The authors propose a way for calculating the height of an apparatus sufficient for extracting an absorbed component from the gaseous mixture to a prescribed degree and for accomplishing the chemical transformation of the liquid phase to a certain percentage. The proposed method is based on the equation of absorption kinetics with allowances for chemical reactions. Only one of the most often occurring cases is considered, when the absorption process is accompanied with an irreversible reaction of the second order. The authors derive Formula 6 for computing the height of packing layer for the case of packed columns and Formula 13 for computing the consumption of liquid per one sq m of the column cross-section for the case of bubble

Card 1/3

plate columns. These two types of columns are mostly used types of the absorption apparatus. The practical application of the formulae obtained is possible when the values of mass-transfer coefficients in the liquid and gaseous phases are known (referred to the unit of the apparatus volume in the first case, or to 1 sq m of the plate area in the latter), as well as the period of the renewal of the surface layer. Formulae 6 and 13 were experimentally checked under laboratory conditions with the following systems: 1) CO_2 - aqueous-ammonia solutions, and 2) CO_2 - aqueous solutions of NaOH, and proved to yield satisfactory results. There are 4 Soviet references.

SOV/80-32-4-13/47

On the Calculation of the Height of Towers for the Chemical Interaction of a Gas With a Liquid

ASSOCIATION: Laboratoriya fizicheskoy khimii Kishinevskogo gosuniversiteta (Laboratory of Physical Chemistry of the Kishinev State University)

SUBMITTED: April 21, 1958.

Card 3/3

5(4)

SOV/80-32-5-15/52

AUTHORS: Kishinevskiy, M.Kh., Mochalova, L.A.

TITLE: On Surface Resistance in Absorption Processes

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 5, pp 1016-1021 (USSR)

ABSTRACT: In recent years several works on the kinetics of absorption complicated by chemical reactions and on the kinetics of simple absorption have been published. Contradictions in the experimental material of Pozin and Kopylev /Ref 3/ show the necessity of calculating the surface resistance in absorption processes. It is known that the coefficient of mass transfer found in the absorption rate of CO_2 in NaOH solution is considerably less than the coefficient found in the experiments with ammonia and moistening by the air. The dependence of the coefficient of mass transfer in the gaseous phase per 1 m^2 of the plate on the gas speed in the full cross section of the column is shown in a diagram. The contradictions of /Ref 3/ may be explained that in the case of NH_3 a value near to k_g, the coefficient of the gaseous phase, was found due to the high solubility of ammonia; in the second case a value near to k_1, which is determined by the average

Card 1/2

On Surface Resistance in Absorption Processes SOV/80-32-5-15/52

rate of the thermal motion of molecules, has been found. The authors state that the purpose of the present article is to draw the attention to the mentioned problem, not to give a final solution.
There are: 1 graph, 1 table and 8 references, 4 of which are Soviet and 4 English.

ASSOCIATION: Kishinevskiy gosudarstvennyy universitet (Kishinev State University)

SUBMITTED: May 12, 1958

Card 2/2

MOCHALOVA, L.A.; KISHINEVSKIY, M.Kh.

Study of absorption kinetics complicated by chemical reactions on a sieve plate. Zhur.prikl.khim. 33 no.7: 1500-1506 Jl '60. (MIRA 13:7)

1. Laboratoriya fizicheskoy khimii Astrakhanskogo tekhnicheskogo instituta rybnoy promyshlennosti i khozyaystva.
(Absorption) (Carbon dioxide)

KISHINEVSKIY, M.Kh.; MOCHALOVA, L.A.

Kinetics of extraction in a propeller mixer as studied in the system n-heptane - toluene - diethylene glycol. Zhur. prikl. khim. 33 no.9:2049-2056 S '60. (MIRA 13:10)

1. Laboratoriya fizicheskoy khimii Astrakhanskogo tekhnicheskogo instituta rybnoy promyshlennosti i khozyaystva.
(Extraction (Chemistry)) (Toluene) (Heptane)

KISHINEVSKIY, M.Kh.; MOCHALOVA, L.A.

Kinetics of the extraction of toluene by diethylene glycol from a mixture of toluene with n-heptane in packed columns. Zhur.prikl. khim. 33 no.10:2344-2349 O '60. (MIRA 14:5)

1. Laboratoriya fizicheskoy khimii Astrakhanskogo tekhnicheskogo instituta rybnoy promyshlennosti i khozyaystva.
(Toluene) (Diethylene glycol) (Extraction (Chemistry))

KISHINEVSKIY, M.Kh.; SAMOYLOV, V.V.

Determination of the area of a free surface. Zhur.prikl.khim. 34 no.3:687-689 Mr '61. (MIRA 14:5)

1. Laboratoriya fizicheskoy khimii Astrakhanskogo tekhnicheskogo instituta rybnoy promyshlennosti i khozyaystva.
(Surface chemistry)

KISHINEVSKIY, M.Kh.; ARMASH, A.S.

Mechanism of mass exchange between gas and liquid in a vessel with mechanical stirring. Zhur.prikl.khim. 36 no.2:308-315 F '63. (MIRA 16:3)

1. Laboratoriya khimicheskoy tekhnologii Kishinevskogo gosudarstvennogo universiteta.

(Adsorption) (Mixing)

KORNIYENKO, T.S.; KISHINEVSKIY, M.Kh.

Kinetics of the distribution of benzoic acid between a nonpolar solvent and water. Zhur.prikl.khim. 36 no.6:1238-1243 Je '63. (MIRA 16:8)

1. Laboratoriya khimicheskoy tekhnologii Kishinevskogo gosudarstvennogo universiteta.

(Benzoic acid) (Solvents)

KISHINEVSKIY, M.Kh.; KORNIYENKO, T.S.

Diffusion stream from a moving drop. Zhur. prikl. khim. 36 no.8:1869-1871 Ag '63. (MIRA 16:11)

1. Kafedra khimicheskoy tekhnologii Kishinevskogo gosudarstvennogo universiteta.

KORNIYENKO, T.S.; KISHINEVSKIY, M.Kh.

Kinetics of benzoic acid distribution between benzene and water during extraction from drops. Zhur. prikl. khim. 36 no.10:2224-2228 0 '63. (MIRA 17:1)

1. Kishinevskiy gosudarstvennyy universitet.

KISHINEVSKIY, M.Kh.; KORNIYENKO, T.S.

Kinetics of mass exchange in the systems liquid - liquid. Zhur. prikl. khim. 36 no.5:1008-1016 My '63. (MIRA 16:8)

1. Laboratoriya khimicheskoy tekhnologii Kishinevskogo gosudarstvennogo universiteta.
(Extraction (Chemistry)) (Mass transfer)

KISHINEVSKIY, M.Kh.; KORNIYENKO, T.S.

Kinetics of extraction from drops. Zhur. prikl. khim. 36 no.12: 2681-2687 D'63. (MIRA 17:2)

1. Kishinevskiy gosudarstvennyy universitet.

KISHINEVSKIY, M.Kh.; KORNIYENKO, T.S.

Dynamic method of studying mass transfer during the movement of drops. Zhur. prikl. khim. 37 no. 4:844-851 Ap '64. (MIRA 17:5)

1. Laboratoriya khimicheskoy tekhnologii Kishinevskogo gosudarstvennogo universiteta.

KISHINEVSKIY, M.Kh.; KORNIYENKO, T.S.

Transfer mechanism in the system n-heptane - toluene - diethylene glycol. Zhur. prikl. khim. 37 no.9:2071-2074 S '64. (MIRA 17:10)

1. Kishenevskiy gosudarstvennyy universitet.

KISHINEVSKIY, M.Kh.; KORNIYENKO, T.S.

Kinetics of extraction complicated by a chemical reaction. Zhur. prikl. khim. 37 no.6:1285-1291 Je '64. (MIRA 18:3)

1. Kishenevskiy gosudarstvennyy universitet.

KISHINEVSKIY, M.Kh.; DENISOVA, T.B.

Kinetics of mass transfer from a rotating disk in the laminar flow. Zhur.prikl.khim. 37 no.7:1544-1550 Jl '64.

(MIRA 18:4)

1. Kishinevskiy gosudarstvennyy universitet.

KISHINEVSKIY, M.Kh.

Kinetics of absorption accompanied by a reaction of second order. Zhur. prikl. khim. 38 no.1:103-107 Ja '65. (MIRA 18:3)

L 35364-66 EWT(l)/EWT(m)/EWP(j) IJP(c) RM

ACC NR: AR6017809 SOURCE CODE: UR/0058/66/000/001/E010/E010

32

B

AUTHORS: Denisova, T. B.; Kishinevskiy, M. Kh.

TITLE: Experimental determination of the coefficients of molecular diffusion

SOURCE: Ref. zh. Fizika, Abs. 1E77

REF SOURCE: Sb. Materialy dokl. 1-y Nauchno-tekhn. konferentsii Kishinevsk. politekhn. in-ta. Kishinev, 1965, 77-78

TOPIC TAGS: physical diffusion, molecular physics, liquid property

ABSTRACT: Experiments were carried out on the dissolution of benzoic acid in water-glycerine mixtures in solutions of saccharose in water, by the method of dissolving rotating discs in the laminar and turbulent modes. In the former case the reduction of the experimental data was by the Levich formula, and in the latter by a formula derived by M. Kh. Kishinevskiy. The calculations have shown that both theoretical formulas give perfectly comprable values of the molecular-diffusion coefficient. The greatest discrepancy between them is ~8%. P. Suyetin. [Translation of abstract]

SUB CODE: 20

Card 1/1

SOURCE CODE: UR/0413/66/000/014/0021/0022

ACC NR: AP6029019 (A)

INVENTOR: Farberov, M. I.; Kishinskiy, G. I.

ORG: None

TITLE: A method for producing divinyl and other monomers. Class 12, No. 183737

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 21-22

TOPIC TAGS: butadiene, monomer, phosphate, olefin

ABSTRACT: This Author's Certificate introduces a method for producing divinyl and other monomers by condensing the appropriate olefins with formaldehyde followed by separation of the resultant product over a catalyst made up of phosphates of metals in groups I and II. Condensation is done in an excess of olefin under pressure sufficient to produce a liquid mixture with the reaction products which are continuously extracted from the system with removal of reaction heat due to removal of the heat of vaporization of the olefin. Dioxanes are broken down in the presence of a catalyst consisting of a mixture of amorphous and crystalline phosphates of metals in groups I and II.

SUB CODE: 07,11 / SUBM DATE: 26Sep49

UDC: 547.315.2.07

Card 1/1

S/079/60/030/04/09/080
B001/B016

AUTHORS: Farberov, M. I., Kut'in, A. M., Kishinskiy, G. I.,
Vernova, T. P.

TITLE: Diene Synthesis on the Basis of Olefins and Aldehydes.
II. Synthesis of Divinyl on the Basis of Propylene and
Formaldehyde

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 4, pp. 1099-1106

TEXT: Some patents in publications indicate the possibility of obtaining divinyl from 4-methyl dioxane (Ref. 5) but without an experimental basis. The authors of the present paper thoroughly investigated the contact conversion of methyl dioxane (I) (obtained from propylene and formaldehyde) in the gaseous phase by means of various catalysts (mainly metallic phosphates) in which connection divinyl is formed in high yield. It was further shown that under certain conditions divinyl and allyl carbinol (IV), approximately in the same quantity (Ref. 6), may be obtained at the same time. On the basis of previous papers (Refs. 1-4) (Scheme 1) the synthesis of divinyl

Card 1/3

S/079/60/030/04/09/080
B001/B016

Diene Synthesis on the Basis of Olefins and Aldehydes. II. Synthesis of Divinyl on the Basis of Propylene and Formaldehyde

was carried out by allowing propylene to react with formaldehyde by means of a catalyst. As a result of the investigation of the contact conversion of the principal reaction product, methyl dioxane (Scheme), an 82% divinyl yield was obtained (calculated for the methyl dioxane having passed reaction). By a suitably conducted hydrogenation of the allyl carbinol (IV), butanol-1 was obtained quantitatively. At the same time, divinyl and allyl carbinol could be synthesized in about the same quantities. The authors investigated the contact conversion of the by-product of the above-mentioned reaction, 4-hydroxy-tetrahydropyran (III), by means of the KSD catalyst, in which connection compound (VIII) (36%), divinyl (15-20%), and the unsaturated alcohol (IV) resulted. The divinyl yield could be increased up to about 70% at a higher temperature (550°). A reaction mechanism was suggested for the formation of the products which are formed on contact conversion of methyl dioxane and 4-hydroxy-tetrahydropyran. 3 diagrams and 3 tables illustrate the investigation results. There are 3 figures, 3 tables, and 13 references, 11 of which are Soviet.

Card 2/3

Synthesis of Dienes From Olefins and Aldehydes. I.

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The physical constants of the basic and side products of the reaction are: isoprene (V), bp 34°, n_D^{20} 1.4219; 2-methylbuten-2-ol-4 (IV), bp 139-140°; isovaleric aldehyde (VI), mp 117.5-118°; compound (VII), bp 118.5-119°, n_D^{20} 1.4490; compound (VIII), bp 105-107°, n_D^{20} 1.4190; compound (IX), bp 120-121° (4 mm), n_D^{20} 1.5870. N. K. Shemyakina participated in this work. There are 4 figures; 3 tables; and 10 references, 8 Soviet, 2 U.S. The U.S. references are: Gresham, T. L., Steadman, J. Am. Chem. Soc., 71, 878 (1949); U.S. Patent 2218640.

ASSOCIATION: Scientific Research Institute of Monomers for Synthetic Rubber, and Yaroslavl Technological Institute (Nauchno-Issledovatel'skiy institut monomerov dlya SK i Yaroslavskiy tekhnologicheskiy institut)

SUBMITTED: March 7, 1958

Card 6/6

Synthesis of Dienes From Olefins and Aldehydes. I.

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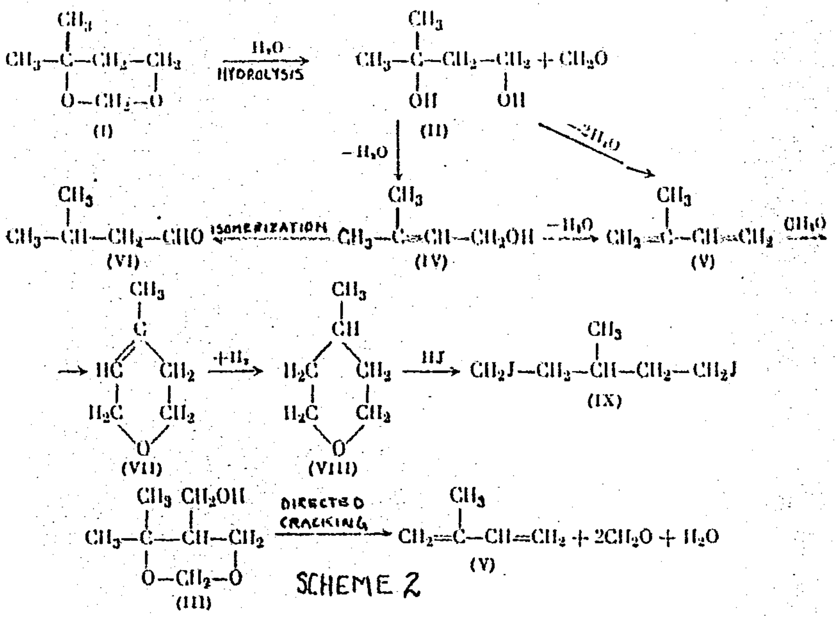
SOV/79-30-3-28/69



SCHEME 2

Card 5/6

Dilution of dimethyldioxane with steam significantly increases the reaction rate. An appropriate selection of the reaction conditions could yield 75-78% isoprene, based on reacted dimethyldioxane, or 80-85% isoprene, based on decomposed dimethyldioxane. Among the reaction products of isobutylene with formaldehyde, in addition to the main product, dimethyldioxane (I), diol (7-10% based on unreacted formaldehyde), and cyclic alcohol (III , 7-8%) are present. They can also be converted into isoprene over the KSD catalyst. The mechanism of reaction is shown in Scheme 2.

Synthesis of Dienes From Olefins and Aldehydes. I.

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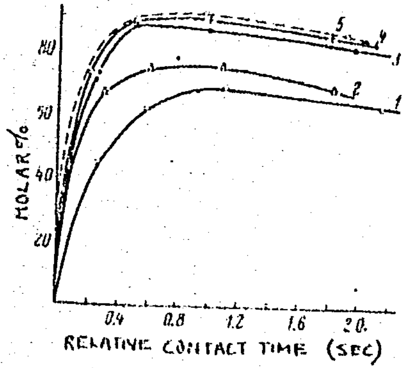

Fig. 3. Yield of isoprene based on reacted dimethyldioxane (I) at different temperatures with steam dilution, 1:14 (moles): (1) 300°; (2) 325°; (3) 350°; (4) 375°; (5) 400°.

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Synthesis of Dienes From Olefins and Aldehydes. I.

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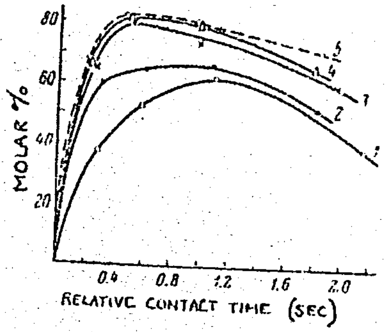

Fig. 2. Conversion of dimethyldioxane (I) into unsaturated hydrocarbons (C_5H_8 and iso-C_4H_8) at different temperatures and with steam dilution, 1:14 (molar): (1) 300°; (2) 325°; (3) 350°; (4) 375°; (5) 400°.

Card 2/6

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78274
SOV/79-30-3-28/69

AUTHORS: Farberov, M. I., Kut'in, A. M., Kishinskiy, G. I., Vernova, T. P.

TITLE: Synthesis of Dienes From Olefins and Aldehydes. I. Synthesis of Isoprene From Isobutylene and Formaldehyde

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 875-884 (USSR)

ABSTRACT: Among many catalysts tested, the best results were obtained with KSD catalyst (a mixture of calcium phosphates of a definite composition). The catalyst needs regeneration after 2-4 hours of work, and this can be best done with a steam-air mixture which removes deposited "coke" from it. The activity of the catalyst decreases sharply when the reaction is carried out without steam. The dependence of the rate of dimethyldioxane conversion on contact time and temperature is shown in Figs. 2 and 3.

Card 1/6

[illegible], Doctor of Chemi[illegible]

KISHINEVSKIY V.B.

[illegible] svoystva splavov urana, toriya i tsirkoniya; sbornik [illegible]
[illegible] and Properties of Uranium, Thorium, and Zirconium
[illegible] Collection of Articles) Moscow, Gosatomizdat, 1963.
[illegible] 2000 copies printed.

36. [illegible]ckhov, G. [illegible], R. Kh. Tagirova, and O. S. Ivanov. Corrosion Resistance and Mechanical Properties of Low-Chromium or Low-Tin Zirconium Alloys

37. Se[illegible]chenkov, A. T., O. S. Ivanov, and B. B. Bobrov[illegible] Corrosion Resistance of Low-Alloy Zr-Mo-Sn, Zr-Cr-[illegible] and Zr-Cr-[illegible] Alloys

38. Kishinevskiy, V. B., V. K. Grigorovich. Heat and Che[illegible] Resistance of Zirconium-Aluminum Alloys With Additions of Chromium, Vanadium, and Molybdenum

39. Kishinevskiy, V. B., V. K. Grigorovich. Study of Ter[illegible] Zirconium-Aluminum-Tin Alloys

40. Gomozov, L. I., V. B. Kishinevskiy, O. S. Ivanov, and [illegible] Grigorovich. Corrosion Resistance of Some Binary and Ternary Iodide-, Magnesium-Reduced-, or Electrolytic Zirconium-Base Alloys 35-

Card 9/10

KISHINEVSKIY V.B.

..., Doctor of Chemical [illegible], ed.

i svoystva splavov urana, toriya i tsirkoniya; sbornik
...ure and Properties of Uranium, Thorium, and Zirconium
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...000 copies printed.

...kov, G. I., R. Kh. Tagirova, and O. S. Ivanov. Corrosion Resistance and Mechanical Properties of Low-Chromium or Low-Tin Zirconium Alloys

...chenkov, A. T., O. S. Ivanov, and B. B. Bobrovskiy. Corrosion Resistance of Low-Alloy Zr-Mg-Sn, Zr-Cr-Fe, Zr-Cr-Ni Alloys

...nevskiy, V. B., V. K. Grigorovich. Heat and Oxid... ...istance of Zirconium-Aluminum Alloys With Addition ... ...omium, Vanadium, and Molybdenum

39. Kishinevskiy, V. B., V. K. Grigorovich. Study of Tern... Zirconium-Aluminum-Tin Alloys

...ozov, L. I., V. B. Kishinevskiy, O. S. Ivanov, and V. ... Grigorovich. Corrosion Resistance of Some Binary and Ternary Iodide-, Magnesium-Reduced-, or Electrolytic Zirconium-Base Alloys

Card 9/10

KOBYLKIN, A. N.; GRIGOROVICH, V. K.; KISHINEVSKIY, V. B.

Apparatus for high temperature tests (up to 2000°C) of materials for tension in vacuum. Zav. lab. 28 no.12:1513-1515 '62. (MIRA 16:1)

1. Institut metallurgii im. A. A. Baykova.

(Testing machines)